LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tait Environmental Management, Inc.
701 N. Park Center Drive
Santa Ana, CA 92705
ATTN: Ms. Clara Boeru

July 19, 2007

SUBJECT: Boeing Realty Corp. Bldg C-6 Facility, Data Validation

Dear Ms. Boeru,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on July 9, 2007. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 17079:

SDG #	Fraction
IQE0801, IQE0963, IQE1077	Volatiles, Wet Chemistry, Dissolved Gases

The data validation was performed under Tier 1, Tier 2 and Tier 3 guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998

Please feel free to contact us if you have any questions.

Sincerely,

Stella S. Cuenco
Project Manager/Senior Chemist

V:\LOGIN\TAIT\17079COV.wpd

Attachment 1

LDC #17079 (Tait Environmenal Management, Inc. / Boeing Realty Corp., Bldg C-6 Facility)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		Diss. Gases (175)		Alk. (310.1)		NH_3 (350.3)		Cl,SO_4 $O\text{-}PO_4$ (300.0)		$NO_3\text{-}N$ $NO_2\text{-}N$ (300.0)		TOC (415.1)		Metabolic Acids (300.0M)																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	IQE0801	07/09/07	07/30/07	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	Tier I															
B	IQE0963	07/09/07	07/30/07	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0																
C	IQE1077	07/09/07	07/30/07	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0																
Total	B/SC			3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24

Shaded cells indicate Tier III validation (all other cells are Tier II validation). Sample counts do not include MS, MSD, or DUP's.

17079ST.wpd

Boeing Realty Corp. Bldg C-6 Facility
Data Validation Reports
LDC# 17079

Volatiles

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 8, 2007

LDC Report Date: July 17, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 1

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQE0801

Sample Identification

TMW_07_WG050807_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. Cooler temperatures for all samples were reported at 10°C upon receipt by the laboratory. The samples were picked up in the field and did not have sufficient time to cool down. No data was qualified based on the cooler temperature.

II. GC/MS Instrument Performance Check

Instrument performance data were not reviewed for Tier 1.

III. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Tier 1.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
7E09008-BSI	2,2-Dichloropropane	141 (65-140)	All samples in SDG IQE0801	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Tier 1.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Data Qualification Summary - SDG IQE0801

SDG	Sample	Compound	Flag	A or P	Reason
IQE0801	TMW_07_WG050807_0001	2,2-Dichloropropane	J (all detects)	P	Laboratory control samples (%R)

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG IQE0801

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE0801

Sampled: 05/08/07
Received: 05/08/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0801-01 (TMW_07_WG050807_0001 - Water)					**Sampled: 05/08/07**				
Reporting Units: ug/l									
Acetone	EPA 8260B	7E09008	4.5	10	ND	1	05/09/07	05/09/07	
Benzene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
Bromobenzene	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
Bromochloromethane	EPA 8260B	7E09008	0.32	1.0	ND	1	05/09/07	05/09/07	
Bromodichloromethane	EPA 8260B	7E09008	0.30	1.0	ND	1	05/09/07	05/09/07	
Bromoform	EPA 8260B	7E09008	0.40	1.0	ND	1	05/09/07	05/09/07	
Bromomethane	EPA 8260B	7E09008	0.42	1.0	ND	1	05/09/07	05/09/07	
2-Butanone (MEK)	EPA 8260B	7E09008	3.8	5.0	ND	1	05/09/07	05/09/07	
n-Butylbenzene	EPA 8260B	7E09008	0.37	1.0	ND	1	05/09/07	05/09/07	
sec-Butylbenzene	EPA 8260B	7E09008	0.25	1.0	ND	1	05/09/07	05/09/07	
tert-Butylbenzene	EPA 8260B	7E09008	0.22	1.0	ND	1	05/09/07	05/09/07	
Carbon Disulfide	EPA 8260B	7E09008	0.48	1.0	ND	1	05/09/07	05/09/07	
Carbon tetrachloride	EPA 8260B	7E09008	0.28	0.50	ND	1	05/09/07	05/09/07	
Chlorobenzene	EPA 8260B	7E09008	0.36	1.0	ND	1	05/09/07	05/09/07	
Chloroethane	EPA 8260B	7E09008	0.40	2.0	ND	1	05/09/07	05/09/07	
Chloroform	EPA 8260B	7E09008	0.33	1.0	**4.2**	1	05/09/07	05/09/07	
Chloromethane	EPA 8260B	7E09008	0.40	2.0	ND	1	05/09/07	05/09/07	
2-Chlorotoluene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
4-Chlorotoluene	EPA 8260B	7E09008	0.29	1.0	ND	1	05/09/07	05/09/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7E09008	0.97	2.0	ND	1	05/09/07	05/09/07	
Dibromochloromethane	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7E09008	0.40	1.0	ND	1	05/09/07	05/09/07	
1,4-Dichlorobenzene	EPA 8260B	7E09008	0.37	1.0	ND	1	05/09/07	05/09/07	
1,2-Dichlorobenzene	EPA 8260B	7E09008	0.32	1.0	ND	1	05/09/07	05/09/07	
1,3-Dichlorobenzene	EPA 8260B	7E09008	0.35	1.0	ND	1	05/09/07	05/09/07	
Dichlorodifluoromethane	EPA 8260B	7E09008	0.79	1.0	ND	1	05/09/07	05/09/07	
1,2-Dichloroethane	EPA 8260B	7E09008	0.28	0.50	ND	1	05/09/07	05/09/07	
1,1-Dichloroethane	EPA 8260B	7E09008	0.27	1.0	**0.75**	1	05/09/07	05/09/07	J
1,1-Dichloroethene	EPA 8260B	7E09008	0.42	1.0	**19**	1	05/09/07	05/09/07	
cis-1,2-Dichloroethene	EPA 8260B	7E09008	0.32	1.0	**1.6**	1	05/09/07	05/09/07	
trans-1,2-Dichloroethene	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
1,2-Dichloropropane	EPA 8260B	7E09008	0.35	1.0	ND	1	05/09/07	05/09/07	
2,2-Dichloropropane	EPA 8260B	7E09008	0.34	1.0	ND	1	05/09/07	05/09/07	C, L
cis-1,3-Dichloropropene	EPA 8260B	7E09008	0.22	0.50	ND	1	05/09/07	05/09/07	
1,1-Dichloropropene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
trans-1,3-Dichloropropene	EPA 8260B	7E09008	0.32	0.50	ND	1	05/09/07	05/09/07	
Ethylbenzene	EPA 8260B	7E09008	0.25	1.0	ND	1	05/09/07	05/09/07	
Hexachlorobutadiene	EPA 8260B	7E09008	0.38	1.0	ND	1	05/09/07	05/09/07	
2-Hexanone	EPA 8260B	7E09008	2.6	6.0	ND	1	05/09/07	05/09/07	
Iodomethane	EPA 8260B	7E09008	1.0	2.0	ND	1	05/09/07	05/09/07	
Isopropylbenzene	EPA 8260B	7E09008	0.25	1.0	ND	1	05/09/07	05/09/07	

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

9/19/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE0801

Sampled: 05/08/07
Received: 05/08/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0801-01 (TMW_07_WG050807_0001 - Water) - cont.					**Sampled: 05/08/07**				
Reporting Units: ug/l									
p-Isopropyltoluene	EPA 8260B	7E09008	0.28	1.0	ND	1	05/09/07	05/09/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7E09008	0.32	1.0	ND	1	05/09/07	05/09/07	
Methylene chloride	EPA 8260B	7E09008	0.95	1.0	ND	1	05/09/07	05/09/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7E09008	3.5	5.0	ND	1	05/09/07	05/09/07	
n-Propylbenzene	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
Styrene	EPA 8260B	7E09008	0.16	1.0	ND	1	05/09/07	05/09/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7E09008	0.27	1.0	ND	1	05/09/07	05/09/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7E09008	0.24	1.0	ND	1	05/09/07	05/09/07	
Tetrachloroethene	EPA 8260B	7E09008	0.32	1.0	**1.3**	1	05/09/07	05/09/07	
Tetrahydrofuran (THF)	EPA 8260B	7E09008	3.5	10	ND	1	05/09/07	05/09/07	
Toluene	EPA 8260B	7E09008	0.36	1.0	ND	1	05/09/07	05/09/07	
1,2,3-Trichlorobenzene	EPA 8260B	7E09008	0.30	1.0	ND	1	05/09/07	05/09/07	
1,2,4-Trichlorobenzene	EPA 8260B	7E09008	0.48	1.0	ND	1	05/09/07	05/09/07	
1,1,2-Trichloroethane	EPA 8260B	7E09008	0.30	1.0	**7.8**	1	05/09/07	05/09/07	
1,1,1-Trichloroethane	EPA 8260B	7E09008	0.30	1.0	ND	1	05/09/07	05/09/07	
Trichlorofluoromethane	EPA 8260B	7E09008	0.34	2.0	ND	1	05/09/07	05/09/07	
1,2,3-Trichloropropane	EPA 8260B	7E09008	0.40	1.0	ND	1	05/09/07	05/09/07	
1,2,4-Trimethylbenzene	EPA 8260B	7E09008	0.23	1.0	ND	1	05/09/07	05/09/07	
1,3,5-Trimethylbenzene	EPA 8260B	7E09008	0.26	1.0	ND	1	05/09/07	05/09/07	
Vinyl acetate	EPA 8260B	7E09008	1.7	6.0	ND	1	05/09/07	05/09/07	
Vinyl chloride	EPA 8260B	7E09008	0.30	0.50	ND	1	05/09/07	05/09/07	
Xylenes, Total	EPA 8260B	7E09008	0.90	1.0	ND	1	05/09/07	05/09/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*97 %*				
Surrogate: Dibromofluoromethane (80-120%)					*95 %*				
Surrogate: Toluene-d8 (80-120%)					*113 %*				

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

7/19/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE0801

Sampled: 05/08/07
Received: 05/08/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0801-01RE1 (TMW_07_WG050807_0001 - Water) - cont.					**Sampled: 05/08/07**				
Reporting Units: ug/l									
Trichloroethene	EPA 8260B	7E10021	5.2	20	**1700**	20	05/10/07	05/10/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*99 %*				
Surrogate: Dibromofluoromethane (80-120%)					*89 %*				
Surrogate: Toluene-d8 (80-120%)					*105 %*				

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

7/19 W

LDC #: 17079A1

SDG #: IQE0801

Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET

Tier 1

Date: 7/16/07

Page: 6 of 7

Reviewer:

2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

cooler temp = 10.5°C not enough time to cooldown

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/8/07
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	2-5 TMW_07_WG050807_0001	11	7E09008-BLK1	21		31	
2		12	7E10021-BLK1	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl chorlde**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

DC #: 17079A /
DG #: IQE080 /

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

ETHOD: GC/MS VOA (EPA SW 846 Method 8260B)

lease see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

[✓ Y] N N/A Was a LCS required?
Y [✓ N] N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		7E09008-BS1	ΘΘ	141 (65-140)	( )	( )	All + Blank	J/P det
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 9, 2007

LDC Report Date: July 17, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 2

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQE0963

Sample Identification

WCC_12_WG050907_0001
WCC_12_WG050907_0001MS
WCC_12_WG050907_0001MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
4/19/07	2-Butanone	0.044 (≥0.05)	All samples in SDG IQE0693	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/11/07	2-Butanone	0.045 (≥0.05)	All samples in SDG IQE0963	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Data Qualification Summary - SDG IQE0963

SDG	Sample	Compound	Flag	A or P	Reason
IQE0963	WCC_12_WG050907_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
IQE0963	WCC_12_WG050907_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG IQE0963

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE0963

Sampled: 05/09/07
Received: 05/09/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0963-04 (WCC_12_WG050907_0001 - Water)					**Sampled: 05/09/07**				
Reporting Units: ug/l									
Acetone	EPA 8260B	7E11006	4.5	10	ND	1	05/11/07	05/11/07	
Benzene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
Bromobenzene	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
Bromochloromethane	EPA 8260B	7E11006	0.32	1.0	ND	1	05/11/07	05/11/07	
Bromodichloromethane	EPA 8260B	7E11006	0.30	1.0	ND	1	05/11/07	05/11/07	
Bromoform	EPA 8260B	7E11006	0.40	1.0	ND	1	05/11/07	05/11/07	
Bromomethane	EPA 8260B	7E11006	0.42	1.0	ND	1	05/11/07	05/11/07	
2-Butanone (MEK)	EPA 8260B	7E11006	3.8	5.0	ND	1	05/11/07	05/11/07	UJ
n-Butylbenzene	EPA 8260B	7E11006	0.37	1.0	ND	1	05/11/07	05/11/07	
sec-Butylbenzene	EPA 8260B	7E11006	0.25	1.0	ND	1	05/11/07	05/11/07	
tert-Butylbenzene	EPA 8260B	7E11006	0.22	1.0	ND	1	05/11/07	05/11/07	
Carbon Disulfide	EPA 8260B	7E11006	0.48	1.0	ND	1	05/11/07	05/11/07	
Carbon tetrachloride	EPA 8260B	7E11006	0.28	0.50	ND	1	05/11/07	05/11/07	
Chlorobenzene	EPA 8260B	7E11006	0.36	1.0	ND	1	05/11/07	05/11/07	
Chloroethane	EPA 8260B	7E11006	0.40	2.0	ND	1	05/11/07	05/11/07	
Chloroform	EPA 8260B	7E11006	0.33	1.0	**2.7**	1	05/11/07	05/11/07	
Chloromethane	EPA 8260B	7E11006	0.40	2.0	ND	1	05/11/07	05/11/07	
2-Chlorotoluene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
4-Chlorotoluene	EPA 8260B	7E11006	0.29	1.0	ND	1	05/11/07	05/11/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7E11006	0.97	2.0	ND	1	05/11/07	05/11/07	
Dibromochloromethane	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7E11006	0.40	1.0	ND	1	05/11/07	05/11/07	
1,4-Dichlorobenzene	EPA 8260B	7E11006	0.37	1.0	ND	1	05/11/07	05/11/07	
1,2-Dichlorobenzene	EPA 8260B	7E11006	0.32	1.0	ND	1	05/11/07	05/11/07	
1,3-Dichlorobenzene	EPA 8260B	7E11006	0.35	1.0	ND	1	05/11/07	05/11/07	
Dichlorodifluoromethane	EPA 8260B	7E11006	0.79	1.0	ND	1	05/11/07	05/11/07	
1,2-Dichloroethane	EPA 8260B	7E11006	0.28	0.50	ND	1	05/11/07	05/11/07	
1,1-Dichloroethane	EPA 8260B	7E11006	0.27	1.0	**12**	1	05/11/07	05/11/07	
1,1-Dichloroethene	EPA 8260B	7E11006	0.42	1.0	**13**	1	05/11/07	05/11/07	
cis-1,2-Dichloroethene	EPA 8260B	7E11006	0.32	1.0	**0.97**	1	05/11/07	05/11/07	J
trans-1,2-Dichloroethene	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
1,2-Dichloropropane	EPA 8260B	7E11006	0.35	1.0	ND	1	05/11/07	05/11/07	
2,2-Dichloropropane	EPA 8260B	7E11006	0.34	1.0	ND	1	05/11/07	05/11/07	
cis-1,3-Dichloropropene	EPA 8260B	7E11006	0.22	0.50	ND	1	05/11/07	05/11/07	
1,1-Dichloropropene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
trans-1,3-Dichloropropene	EPA 8260B	7E11006	0.32	0.50	ND	1	05/11/07	05/11/07	
Ethylbenzene	EPA 8260B	7E11006	0.25	1.0	ND	1	05/11/07	05/11/07	
Hexachlorobutadiene	EPA 8260B	7E11006	0.38	1.0	ND	1	05/11/07	05/11/07	
2-Hexanone	EPA 8260B	7E11006	2.6	6.0	ND	1	05/11/07	05/11/07	
Iodomethane	EPA 8260B	7E11006	1.0	2.0	ND	1	05/11/07	05/11/07	
Isopropylbenzene	EPA 8260B	7E11006	0.25	1.0	ND	1	05/11/07	05/11/07	

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 05/09/07
Santa Ana, CA 92705	Report Number: 1QE0963	Received: 05/09/07
Attention: Clara Boeru		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: 1QE0963-04 (WCC_12_WG050907_0001 - Water) - cont.					**Sampled: 05/09/07**				
Reporting Units: ug/l									
p-Isopropyltoluene	EPA 8260B	7E11006	0.28	1.0	ND	1	05/11/07	05/11/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7E11006	0.32	1.0	ND	1	05/11/07	05/11/07	
Methylene chloride	EPA 8260B	7E11006	0.95	1.0	**1.6**	1	05/11/07	05/11/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7E11006	3.5	5.0	ND	1	05/11/07	05/11/07	
n-Propylbenzene	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
Styrene	EPA 8260B	7E11006	0.16	1.0	ND	1	05/11/07	05/11/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7E11006	0.27	1.0	ND	1	05/11/07	05/11/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7E11006	0.24	1.0	ND	1	05/11/07	05/11/07	
Tetrachloroethene	EPA 8260B	7E11006	0.32	1.0	**0.93**	1	05/11/07	05/11/07	J
Tetrahydrofuran (THF)	EPA 8260B	7E11006	3.5	10	ND	1	05/11/07	05/11/07	
Toluene	EPA 8260B	7E11006	0.36	1.0	ND	1	05/11/07	05/11/07	
1,2,3-Trichlorobenzene	EPA 8260B	7E11006	0.30	1.0	ND	1	05/11/07	05/11/07	
1,2,4-Trichlorobenzene	EPA 8260B	7E11006	0.48	1.0	ND	1	05/11/07	05/11/07	
1,1,2-Trichloroethane	EPA 8260B	7E11006	0.30	1.0	**0.33**	1	05/11/07	05/11/07	J
1,1,1-Trichloroethane	EPA 8260B	7E11006	0.30	1.0	ND	1	05/11/07	05/11/07	
Trichloroethene	EPA 8260B	7E11006	0.26	1.0	**110**	1	05/11/07	05/11/07	
Trichlorofluoromethane	EPA 8260B	7E11006	0.34	2.0	ND	1	05/11/07	05/11/07	
1,2,3-Trichloropropane	EPA 8260B	7E11006	0.40	1.0	ND	1	05/11/07	05/11/07	
1,2,4-Trimethylbenzene	EPA 8260B	7E11006	0.23	1.0	ND	1	05/11/07	05/11/07	
1,3,5-Trimethylbenzene	EPA 8260B	7E11006	0.26	1.0	ND	1	05/11/07	05/11/07	
Vinyl acetate	EPA 8260B	7E11006	1.7	6.0	ND	1	05/11/07	05/11/07	
Vinyl chloride	EPA 8260B	7E11006	0.30	0.50	ND	1	05/11/07	05/11/07	
Xylenes, Total	EPA 8260B	7E11006	0.90	1.0	ND	1	05/11/07	05/11/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*84 %*				
Surrogate: Dibromofluoromethane (80-120%)					*98 %*				
Surrogate: Toluene-d8 (80-120%)					*102 %*				

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

LDC #: 17079B1
SDG #: IQE0963
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Tier 2

Date: 7/16/07
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/9/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD, r^2 ≥0.990
IV.	Continuing calibration/~~DEV~~	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:
water

1	WCC_12_WG050907_0001	11	7E11006 - BLK1	21		31	
2	WCC_12_WG050907_0001MS	12		22		32	
3	WCC_12_WG050907_0001MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl chorlde**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OD. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 17079B1
SDG #: IQE0963

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: [initials]
2nd Reviewer: [initials]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
(Y) N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
(Y) N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?________
(Y) N N/A Did the initial calibration meet the acceptance criteria?
Y (N) N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	4/19/07	ICAL - GCMS59	M		0.044	All + BlK	J/UJ/A

INICAL.1SB

LDC #: 17079B1
SDG #: IQE0963

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	ccv	5/11/07	M		0.045	All + BLK	J/UJ/A
	6:30AM						

BOE-C6-0055028

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg. C-6 Facility

Collection Date: May 10, 2007

LDC Report Date: July 17, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 3

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQE1077

Sample Identification

AW0066UB_WG051007_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/13/07	Trichlorofluoromethane Methylene chloride 2,2-Dichloropropane 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dichloroethene, total Dibromochloromethane Hexachlorobutadiene	29.0 27.6 69.7 26.6 50.6 30.8 36.4 28.7	AW0066UB_WG051007_0001 7E13009-BLK1	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/12/07	2-Butanone	0.042 (≥0.05)	AW0066UB_WG051007_0001 7E12009-BLK1	J (all detects) UJ (all non-detects)	A
5/13/07	2-Butanone	0.040 (≥0.05)	AW0066UB_WG051007_0001 7E13009-BLK1	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
7E13009-LCS	2,2-Dichloropropane	156 (65-140)	All samples in SDG IQE1077	J (all detects)	P

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg. C-6 Facility
Volatiles - Data Qualification Summary - SDG IQE1077

SDG	Sample	Compound	Flag	A or P	Reason
IQE1077	AW0066UB_WG051007_0001	Trichlorofluoromethane Methylene chloride 2,2-Dichloropropane 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dichloroethene, total Dibromochloromethane Hexachlorobutadiene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
IQE1077	AW0066UB_WG051007_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)
IQE1077	AW0066UB_WG051007_0001	2,2-Dichloropropane	J (all detects)	P	Laboratory control samples (%R)

Boeing Realty Corp., Bldg. C-6 Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG IQE1077

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE1077

Sampled: 05/10/07
Received: 05/10/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE1077-01 (AW0066UB_WG051007_0001 - Water)									
Reporting Units: ug/l									
2-Butanone (MEK)	EPA 8260B	7E12009	4700	5000	**120000**	1000	05/12/07	05/12/07	J
Surrogate: 4-Bromofluorobenzene (80-120%)					*97 %*				
Surrogate: Dibromofluoromethane (80-120%)					*97 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				
Sample ID: IQE1077-01RE1 (AW0066UB_WG051007_0001 - Water)									
Reporting Units: ug/l									
Acetone	EPA 8260B	7E13009	1100	2500	**18000**	250	05/13/07	05/13/07	
Benzene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
Bromobenzene	EPA 8260B	7E13009	68	250	ND	250	05/13/07	05/13/07	
Bromochloromethane	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	
Bromodichloromethane	EPA 8260B	7E13009	75	250	ND	250	05/13/07	05/13/07	
Bromoform	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
Bromomethane	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
n-Butylbenzene	EPA 8260B	7E13009	92	250	ND	250	05/13/07	05/13/07	
sec-Butylbenzene	EPA 8260B	7E13009	62	250	ND	250	05/13/07	05/13/07	
tert-Butylbenzene	EPA 8260B	7E13009	55	250	ND	250	05/13/07	05/13/07	
Carbon Disulfide	EPA 8260B	7E13009	120	250	ND	250	05/13/07	05/13/07	
Carbon tetrachloride	EPA 8260B	7E13009	70	120	ND	250	05/13/07	05/13/07	UJ C
Chlorobenzene	EPA 8260B	7E13009	90	250	ND	250	05/13/07	05/13/07	
Chloroethane	EPA 8260B	7E13009	100	500	ND	250	05/13/07	05/13/07	
Chloroform	EPA 8260B	7E13009	82	250	ND	250	05/13/07	05/13/07	
Chloromethane	EPA 8260B	7E13009	100	500	ND	250	05/13/07	05/13/07	
2-Chlorotoluene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
4-Chlorotoluene	EPA 8260B	7E13009	72	250	ND	250	05/13/07	05/13/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7E13009	240	500	ND	250	05/13/07	05/13/07	
Dibromochloromethane	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	UJ
1,2-Dibromoethane (EDB)	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
1,4-Dichlorobenzene	EPA 8260B	7E13009	92	250	ND	250	05/13/07	05/13/07	
1,2-Dichlorobenzene	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	
1,3-Dichlorobenzene	EPA 8260B	7E13009	88	250	ND	250	05/13/07	05/13/07	
Dichlorodifluoromethane	EPA 8260B	7E13009	200	250	ND	250	05/13/07	05/13/07	
1,2-Dichloroethane	EPA 8260B	7E13009	70	120	**340**	250	05/13/07	05/13/07	J
1,1-Dichloroethane	EPA 8260B	7E13009	68	250	**1100**	250	05/13/07	05/13/07	
1,1-Dichloroethene	EPA 8260B	7E13009	100	250	**7300**	250	05/13/07	05/13/07	
cis-1,2-Dichloroethene	EPA 8260B	7E13009	80	250	**8400**	250	05/13/07	05/13/07	
trans-1,2-Dichloroethene	EPA 8260B	7E13009	68	250	**360**	250	05/13/07	05/13/07	
1,2-Dichloropropane	EPA 8260B	7E13009	88	250	ND	250	05/13/07	05/13/07	
2,2-Dichloropropane	EPA 8260B	7E13009	85	250	ND	250	05/13/07	05/13/07	UJ C, L
cis-1,3-Dichloropropene	EPA 8260B	7E13009	55	120	ND	250	05/13/07	05/13/07	
1,1-Dichloropropene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 05/10/07
Santa Ana, CA 92705	Report Number: IQE1077	Received: 05/10/07
Attention: Clara Boeru		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE1077-01RE1 (AW0066UB_WG051007_0001 - Water) - cont.									
Reporting Units: ug/l									
trans-1,3-Dichloropropene	EPA 8260B	7E13009	80	120	ND	250	05/13/07	05/13/07	
Ethylbenzene	EPA 8260B	7E13009	62	250	ND	250	05/13/07	05/13/07	
Hexachlorobutadiene	EPA 8260B	7E13009	95	250	ND	250	05/13/07	05/13/07	UJ
2-Hexanone	EPA 8260B	7E13009	650	1500	ND	250	05/13/07	05/13/07	
Iodomethane	EPA 8260B	7E13009	250	500	ND	250	05/13/07	05/13/07	
Isopropylbenzene	EPA 8260B	7E13009	62	250	ND	250	05/13/07	05/13/07	
p-Isopropyltoluene	EPA 8260B	7E13009	70	250	ND	250	05/13/07	05/13/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	
Methylene chloride	EPA 8260B	7E13009	240	250	ND	250	05/13/07	05/13/07	UJ
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7E13009	880	1200	**16000**	250	05/13/07	05/13/07	
n-Propylbenzene	EPA 8260B	7E13009	68	250	ND	250	05/13/07	05/13/07	
Styrene	EPA 8260B	7E13009	40	250	ND	250	05/13/07	05/13/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7E13009	68	250	ND	250	05/13/07	05/13/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7E13009	60	250	ND	250	05/13/07	05/13/07	
Tetrachloroethene	EPA 8260B	7E13009	80	250	ND	250	05/13/07	05/13/07	
Tetrahydrofuran (THF)	EPA 8260B	7E13009	880	2500	**1800**	250	05/13/07	05/13/07	J
Toluene	EPA 8260B	7E13009	90	250	**8700**	250	05/13/07	05/13/07	
1,2,3-Trichlorobenzene	EPA 8260B	7E13009	75	250	ND	250	05/13/07	05/13/07	
1,2,4-Trichlorobenzene	EPA 8260B	7E13009	120	250	ND	250	05/13/07	05/13/07	
1,1,2-Trichloroethane	EPA 8260B	7E13009	75	250	**110**	250	05/13/07	05/13/07	J
1,1,1-Trichloroethane	EPA 8260B	7E13009	75	250	ND	250	05/13/07	05/13/07	UJ
Trichloroethene	EPA 8260B	7E13009	65	250	**100**	250	05/13/07	05/13/07	J
Trichlorofluoromethane	EPA 8260B	7E13009	85	500	ND	250	05/13/07	05/13/07	UJ
1,2,3-Trichloropropane	EPA 8260B	7E13009	100	250	ND	250	05/13/07	05/13/07	
1,2,4-Trimethylbenzene	EPA 8260B	7E13009	58	250	ND	250	05/13/07	05/13/07	
1,3,5-Trimethylbenzene	EPA 8260B	7E13009	65	250	ND	250	05/13/07	05/13/07	
Vinyl acetate	EPA 8260B	7E13009	250	1500	ND	250	05/13/07	05/13/07	
Vinyl chloride	EPA 8260B	7E13009	75	120	**220**	250	05/13/07	05/13/07	
Xylenes, Total	EPA 8260B	7E13009	220	250	ND	250	05/13/07	05/13/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*102 %*				
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*110 %*				

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

5/19/07

LDC #: 17079C1
SDG #: IQE1077
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Tier 3

Date: 7/16/07
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/10/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD, r^2 ≥0.990
IV.	Continuing calibration/~~ICV~~	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	client specified
VIII.	Laboratory control samples	SW	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	not Reported
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1	2=M AW0066UB_WG051007_0001	11	7E13009-BLK1	21		31	
2		12	7E12009-BLK1	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

DC #: 176791
SDG #: 10E1077

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓	NA		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

DC #: 170790
SDG #: 16E1077

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target Compound Identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl choride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 17079C1
SDG #: 1GE1077

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

(Y) N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

(Y) N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	5/12/07	CCV	M		0.042	7E12009-BLK1, #1	J/UJ/A
	5/13/07	CCV	KK	29.0			J/UJ/A
			E	27.6			
			M		0.040	7E13009-BLK1, #1	
+			~~OO~~	69.7			
			N	26.6			
+			~~O~~	50.6			
			J	30.8			
			T	36.4			
			LLL	28.7			

CONCAL.1SB

BOE-C6-0055041

DC #: 17079C1
DG #: 18E1077

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

ETHOD: GC/MS VOA (EPA SW 846 Method 8260B)

lease see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

[✓ Y] N N/A Was a LCS required?
Y [✓ N] N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	Date	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		7E13009-LCS	QQ	156 (65-140)	( )	( )	All + BLK	J/UJ/A J/P det
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

LDC #: 17079c1
SDG #: 18E107

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (25 std)	Recalculated RRF (25 std)	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	ICAL	4/19/07	Methylene chloride (1st internal standard)	0.587	0.587	0.594	0.594	9.95	9.95
			Trichlorethene (2nd internal standard)	0.352	0.352	0.327	0.327	5.55	5.55
			~~Toluene~~ Ethyl Benzene (3rd internal standard)	1.851	1.851	1.564	1.564	9.94	9.94
2			~~Methylene chloride~~ 1,2-DCB (1st internal standard)	1.546	1.546	1.411	1.411	4.64	4.64
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
4			Methylene chloride (1st internal standard)						
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17079C1
SDG #: 1QE1077

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: P
2nd Reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_is)/(A_is)(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	ccv 8:03	5/12/07	~~Methylene chloride~~ M (1st Internal standard)	0.051	0.042	0.042	17.6	17.6
			~~Trichlorethene (2nd internal standard)~~					
			~~Toluene (3rd internal standard)~~					
2	ccv 7:40	5/13/07	Methylene chloride (1st Internal standard)	0.594	0.430	0.430	27.6	27.6
			Trichlorethene (2nd Internal standard)	0.327	0.352	0.352	7.6	7.6
			~~Toluene~~ Ethyl Benzene (3rd Internal standard)	1.564	1.743	1.743	11.4	11.4
3			~~Methylene chloride~~ 1,2-DCB (1st Internal standard)	1.411	1.496	1.496	6.0	6.0
			Trichlorethene (2nd Internal standard)					
			Toluene (3rd Internal standard)					
4			Methylene chloride (1st Internal standard)					
			Trichlorethene (2nd Internal standard)					
			Toluene (3rd Internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17079C1
SDG #: 18E1077

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer:
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1 (20x)

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	25.0	27.62	110	110	0
Bromofluorobenzene	↓	25.61	102	102	↓
1,2-Dichloroethane-d4					
Dibromofluoromethane		25.30	101	101	

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

SURRCALC.1SB

LDC #: 17079C1
SDG #: 18E1077

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS = Laboraotry control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 7E13009-BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	20.9	NA	84	84				
Trichloroethene	↓	↓	23.7	↓	95	95				
Benzene			21.1		84	84				
Toluene			22.9		92	92				
Chlorobenzene	↓	↓	23.3	↓	93	93	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17079C1
SDG #: 1QE107

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of
Reviewer: EJ
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1 . 1,2-DCA

Conc. = $\frac{(23032)(25)(250)}{(1288255)(0.328)(\quad)(\quad)}$

= 340 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Boeing Realty Corp. Bldg C-6 Facility
Data Validation Reports
LDC# 17079

Wet Chemistry

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 8, 2007

LDC Report Date: July 16, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Tier 1

Laboratory: TestAmerica/CH2M Hill Applied Sciences Laboratory

Sample Delivery Group (SDG): IQE0801/G1809

Sample Identification

TMW_07_WG050807_0001
TMW_07_WG050807_0001DUP

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 300.0M for Metabolic Acids, EPA Method 350.3 for Ammonia as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
MB	Chloride Ammonia as N Butyric acid Lactic acid Propionic acid	0.164 mg/L 0.0876 mg/L 0.0190 mg/L 0.0160 mg/L 0.0250 mg/L	All samples in SDG IQE0801/G1809

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
TMW_07_WG050807_0001	Ammonia as N	0.077 mg/L	0.077U mg/L

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

V. Duplicates

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Data Qualification Summary - SDG IQE0801/G1809

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQE0801/G1809

SDG	Sample	Analyte	Modified Final Concentration	A or P
IQE0801/G1809	TMW_07_WG050807_0001	Ammonia as N	0.077U mg/L	A

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

TMW_07_WG050807_0001

SDG No.: G1809

Matrix: WATER

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: G180901

Date Received: 05/15/07

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
64-19-7	Acetic Acid	0.0238	0.100	0.100	U	mg/L	1	25 UL	E300.0M	05/22/07
107-92-6	Butyric Acid	0.00438	0.100	0.100	U	mg/L	1	25 UL	E300.0M	05/22/07
50-21-5	Lactic Acid	0.00890	0.100	0.100	U	mg/L	1	25 UL	E300.0M	05/22/07
79-09-4	Propionic Acid	0.00800	0.100	0.100	U	mg/L	1	25 UL	E300.0M	05/22/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE0801

Sampled: 05/08/07
Received: 05/08/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0801-01 (TMW_07_WG050807_0001 - Water)					**Sampled: 05/08/07**				
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E17067	2.0	2.0	**310**	1	05/17/07	05/17/07	
Ammonia-N	EPA 350.3	7E16081	0.070	0.50	**0.077**	1	05/16/07	05/16/07	U B, J
Chloride	EPA 300.0	7E08049	2.0	10	**230**	20	05/08/07	05/09/07	
Nitrate-NO3	EPA 300.0	7E08049	5.0	10	**34**	20	05/08/07	05/09/07	
Nitrite-NO2	EPA 300.0	7E08049	6.0	10	ND	20	05/08/07	05/09/07	RL1
Orthophosphate - PO4	EPA 300.0	7E08049	0.40	0.50	ND	1	05/08/07	05/09/07	
Sulfate	EPA 300.0	7E08049	3.0	10	**81**	20	05/08/07	05/09/07	
Total Organic Carbon	EPA 415.1	7E10131	0.50	1.0	**1.5**	1	05/10/07	05/10/07	
Sample ID: IQE0801-02 (WCC_6S_WG050807_0001 - Water)					**Sampled: 05/08/07**				
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E17067	2.0	2.0	**340**	1	05/17/07	05/17/07	
Ammonia-N	EPA 350.3	7E16081	0.070	0.50	**0.24**	1	05/16/07	05/16/07	B, J
Chloride	EPA 300.0	7E08049	2.0	10	**590**	20	05/08/07	05/09/07	
Nitrate-NO3	EPA 300.0	7E08049	0.25	0.50	**9.7**	1	05/08/07	05/09/07	
Nitrite-NO2	EPA 300.0	7E08049	6.0	10	ND	20	05/08/07	05/09/07	RL1
Orthophosphate - PO4	EPA 300.0	7E08049	0.40	0.50	ND	1	05/08/07	05/09/07	
Sulfate	EPA 300.0	7E08049	0.15	0.50	**21**	1	05/08/07	05/09/07	
Total Organic Carbon	EPA 415.1	7E10131	0.50	1.0	**5.5**	1	05/10/07	05/10/07	
Sample ID: IQE0801-03 (EWB001_WG050807_0001 - Water)					**Sampled: 05/08/07**				
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E17067	2.0	2.0	**210**	1	05/17/07	05/17/07	
Ammonia-N	EPA 350.3	7E16132	0.070	0.50	**0.11**	1	05/16/07	05/16/07	J
Chloride	EPA 300.0	7E08049	2.0	10	**370**	20	05/08/07	05/09/07	
Nitrate-NO3	EPA 300.0	7E08049	0.25	0.50	**7.8**	1	05/08/07	05/09/07	
Nitrite-NO2	EPA 300.0	7E08049	6.0	10	ND	20	05/08/07	05/09/07	RL1
Orthophosphate - PO4	EPA 300.0	7E08049	0.40	0.50	ND	1	05/08/07	05/09/07	
Sulfate	EPA 300.0	7E08049	0.15	0.50	**21**	1	05/08/07	05/09/07	
Total Organic Carbon	EPA 415.1	7E10131	0.50	1.0	**1.2**	1	05/10/07	05/10/07	

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

9/19/07

LDC #: 17079A6 **VALIDATION COMPLETENESS WORKSHEET** Date: 7/13/09

SDG #: IQE0801/G1809 EPA Region 1 - Tier 1 Page: 1 of 1

Laboratory: Test America/CH2M Hill Applied Sciences Laboratory Reviewer: mm

2nd Reviewer: [illegible]

METHOD: Alkalinity (EPA Method 310.1), Ammonia-N (EPA Method 350.3), Chloride, Nitrate-N, Nitrite-N, Orthophosphate-P, Sulfate, (EPA Method 300.0), TOC (EPA Method 415.1), Metabolic Acids (EPA Method 300.0M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/8/07
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	SW	MB.
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW	MS/MSD/Dup
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: All

1	TMW_07_WG050807_0001	11		21		31	
2	TMW_07_WG050807_0001DUP	12		22		32	
3	MB	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 17079A6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET

Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MY
2nd reviewer: J

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS [✓ Cl] F [✓ NO_3] [✓ NO_2] [✓ SO_4] [✓ PO_4] [✓ ALK] CN^- [✓ NH_3] TKN [✓ TOC] CR^{6+} [✓ Metabolic Acid] ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
~2	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 [✓ ALK] CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}

Comments:

LDC #: 17079A6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: MM
2nd Reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were all samples associated with a given method blank?
(Y) N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples:** A1

Analyte	Blank ID	Maximum ICB/CCB	Blank Action Limit	Sample Identification								
	MB			1								
Cl	0.164		0.82									
NH_3-N	0.0876		0.438	0.077								
Butyric Acid	0.0190		0.095									
Lactic Acid	0.0160		0.080									
Propionic Acid	0.0250		0.125									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the methoc blank concentration were qualified as not detected, "U".

LDC #: 17079A6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MM
2nd Reviewer:

METHOD: Inorganics, EPA Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of 75-125? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. lab limits

Y (N) N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	IQE0780-01	Aq	NO3	185 (80-120)	248 (80-120)		none	No qual

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 9, 2007

LDC Report Date: July 16, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Tier 2

Laboratory: TestAmerica/CH2M Hill Applied Sciences Laboratory

Sample Delivery Group (SDG): IQE0963/G1810

Sample Identification

WCC_12_WG050907_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 300.0M for Metabolic Acids, EPA Method 350.3 for Ammonia as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
MB	Sulfate Total organic carbon Butyric acid Lactic acid Propionic acid	0.307 mg/L 0.554 mg/L 0.0190 mg/L 0.0160 mg/L 0.0250 mg/L	All samples in SDG IQE0963/G1810
ICB/CCB	Sulfate	0.351 mg/L	All samples in SDG IQE0963/G1810

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
WCC_12_WG050907_0001	Total organic carbon Propionic acid	2.0 mg/L 0.0140 mg/L	2.0U mg/L 0.0140U mg/L

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Data Qualification Summary - SDG IQE0963/G1810

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQE0963/G1810

SDG	Sample	Analyte	Modified Final Concentration	A or P
IQE0963/G1810	WCC_12_WG050907_0001	Total organic carbon Propionic acid	2.0U mg/L 0.0140U mg/L	A

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 05/09/07
Santa Ana, CA 92705	Report Number: IQE0963	Received: 05/09/07
Attention: Clara Boeru		

INORGANICS

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE0963-04 (WCC_12_WG050907_0001 - Water)					**Sampled: 05/09/07**				
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E18068	2.0	2.0	**180**	1	05/18/07	05/18/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	ND	1	05/21/07	05/22/07	
Chloride	EPA 300.0	7E09049	5.0	10	**180**	20	05/09/07	05/10/07	
Nitrate-NO3	EPA 300.0	7E09049	0.25	0.50	**22**	1	05/09/07	05/10/07	
Nitrite-NO2	EPA 300.0	7E09049	6.0	10	ND	20	05/09/07	05/10/07	RL1
Orthophosphate - PO4	EPA 300.0	7E09049	0.40	0.50	ND	1	05/09/07	05/10/07	
Sulfate	EPA 300.0	7E09049	4.0	10	**480**	20	05/09/07	05/10/07	
Total Organic Carbon	EPA 415.1	7E14080	0.50	1.0	**2.0**	1	05/14/07	05/14/07	U B
Sample ID: IQE0963-05 (AW0064UB_WG050907_0001 - Water)					**Sampled: 05/09/07**				
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E18068	2.0	2.0	**500**	1	05/18/07	05/18/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	**0.085**	1	05/21/07	05/22/07	J
Chloride	EPA 300.0	7E09049	5.0	10	**480**	20	05/09/07	05/10/07	
Nitrate-NO3	EPA 300.0	7E09049	0.25	0.50	ND	1	05/09/07	05/10/07	
Nitrite-NO2	EPA 300.0	7E09049	6.0	10	ND	20	05/09/07	05/10/07	RL1
Orthophosphate - PO4	EPA 300.0	7E09049	0.40	0.50	ND	1	05/09/07	05/10/07	
Sulfate	EPA 300.0	7E09049	0.20	0.50	**10**	1	05/09/07	05/10/07	
Total Organic Carbon	EPA 415.1	7E14080	0.50	1.0	**29**	1	05/14/07	05/14/07	

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID: WCC_12_WG050907_0001

SDG No.: G1810

Matrix: WATER

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: G181004

Date Received: 05/15/07

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
64-19-7	Acetic Acid	0.0238	0.100	0.142		mg/L	1	25 UL	E300.0M	05/23/07
107-92-6	Butyric Acid	0.00438	0.100	0.100	U	mg/L	1	25 UL	E300.0M	05/23/07
50-21-5	Lactic Acid	0.00890	0.100	0.100	U	mg/L	1	25 UL	E300.0M	05/23/07
79-09-4	Propionic Acid	0.00800	0.100	0.0140	J	mg/L	1	25 UL	E300.0M	05/23/07

5/19/07

LDC #: 17079B6 **VALIDATION COMPLETENESS WORKSHEET** Date: 7/13/07

SDG #: IQE0963/G1810 EPA ~~Region~~ 1 - Tier 2 Page: 1 of 1

Laboratory: Test America/CH2M Hill Applied Sciences Laboratory Reviewer: MM

2nd Reviewer: Q

METHOD: Alkalinity (EPA Method 310.1), Ammonia-N (EPA Method 350.3), Chloride, ~~Nitrate-N~~, ~~Nitrite-N~~, ~~Orthophosphate-P~~, Sulfate, (EPA Method 300.0), TOC (EPA Method 415.1), Metabolic Acids (EPA Method 300.0M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/9/07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	SW	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW	MS/MSD/MSP
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

KO

1	WCC_12_WG050907_0001	11		21		31	
2	MP	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 17079B6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MM
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS (Cl) F (NO_3) (NO_2) (SO_4) (PO_4) (ALK) CN^- (NH_3) TKN (TOC) CR^{6+} (Metabolic Acid) ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ___ ___ ___ ___
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}

Comments: ____________________

LDC #: 19079B6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: MH
2nd Reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were all samples associated with a given method blank?
(Y) N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

Conc. units: mg/L

Associated Samples: All

Analyte	Blank ID	Maximum ICB/CCB	Blank Action Limit	Sample Identification								
	MB			1								
SO4	0.307	0.351	1.755									
TOC	0.554		2.77	2.0								
Butyric Acid	0.0190		0.095									
Lactic Acid	0.0160		0.080									
Propionic Acid	0.0350		0.175	0.0140								

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the methoc blank concentration were qualified as not detected, "U".

LDC #: 17079 B6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MM
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of ~~75-125~~ 80-120? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.

(Y) N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	IRE0886-01	AQ	NO2	184	173		none	NB qual
			PO4	52	58		↓	↓

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 10, 2007

LDC Report Date: July 16, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Tier 3

Laboratory: TestAmerica/CH2M Hill Applied Sciences Laboratory

Sample Delivery Group (SDG): IQE1077/G1808

Sample Identification

AW0066UB_WG051007_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 310.1 for Alkalinity, EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 300.0M for Metabolic Acids, EPA Method 350.3 for Ammonia as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
MB	Sulfate Butyric acid Lactic acid Propionic acid	0.454 mg/L 0.0190 mg/L 0.0160 mg/L 0.0250 mg/L	All samples in SDG IQE1077/G1808

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

All sample result verifications were acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Data Qualification Summary - SDG IQE1077/G1808

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQE1077/G1808

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IQE1077

Sampled: 05/10/07
Received: 05/10/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQE1077-01 (AW0066UB_WG051007_0001 - Water)									
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E20030	2.0	2.0	**500**	1	05/20/07	05/20/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	ND	1	05/21/07	05/22/07	
Chloride	EPA 300.0	7E14053	12	25	**820**	50	05/14/07	05/14/07	
Nitrate-NO3	EPA 300.0	7E10046	0.25	0.50	ND	1	05/10/07	05/11/07	
Nitrite-NO2	EPA 300.0	7E10046	6.0	10	ND	20	05/10/07	05/11/07	RL1
Orthophosphate - PO4	EPA 300.0	7E10046	0.40	0.50	ND	1	05/10/07	05/11/07	
Sulfate	EPA 300.0	7E10046	0.20	0.50	ND	1	05/10/07	05/11/07	
Total Organic Carbon	EPA 415.1	7E14122	50	100	**530**	100	05/14/07	05/14/07	
Sample ID: IQE1077-02 (AW0067UB_WG051007_0001 - Water)									
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E20030	2.0	2.0	**270**	1	05/20/07	05/20/07	
Ammonia-N	EPA 350.3	7E21103	0.070	0.50	ND	1	05/21/07	05/22/07	
Chloride	EPA 300.0	7E10046	5.0	10	**290**	20	05/10/07	05/11/07	
Nitrate-NO3	EPA 300.0	7E10046	0.25	0.50	**4.4**	1	05/10/07	05/11/07	
Nitrite-NO2	EPA 300.0	7E10046	6.0	10	ND	20	05/10/07	05/11/07	RL1
Orthophosphate - PO4	EPA 300.0	7E10046	0.40	0.50	ND	1	05/10/07	05/11/07	
Sulfate	EPA 300.0	7E10046	0.20	0.50	**28**	1	05/10/07	05/11/07	
Total Organic Carbon	EPA 415.1	7E14122	0.50	1.0	**11**	1	05/14/07	05/14/07	
Sample ID: IQE1077-03 (AW0077UB_WG051007_0001 - Water)									
Reporting Units: mg/l									
Alkalinity as CaCO3	EPA 310.1	7E20030	2.0	2.0	**650**	1	05/20/07	05/20/07	
Ammonia-N	EPA 350.3	7E21103	0.14	1.0	**4.4**	2	05/21/07	05/22/07	
Chloride	EPA 300.0	7E11128	12	25	**640**	50	05/11/07	05/12/07	
Nitrate-NO3	EPA 300.0	7E11128	1.2	2.5	ND	5	05/11/07	05/11/07	RL1
Nitrite-NO2	EPA 300.0	7E11128	1.5	2.5	ND	5	05/11/07	05/11/07	RL1
Orthophosphate - PO4	EPA 300.0	7E11128	2.0	2.5	**6.4**	5	05/11/07	05/11/07	
Sulfate	EPA 300.0	7E11128	1.0	2.5	**2.7**	5	05/11/07	05/11/07	
Total Organic Carbon	EPA 415.1	7E14122	50	100	**660**	100	05/14/07	05/14/07	

TestAmerica - Irvine, CA
Nicholas Marz
Project Manager

5/19/07

1A-WC

GENERAL CHEMISTRY ANALYSIS DATA SHEET

Field Sample ID:

AW0066UB_WG051007_0001

SDG No.: G1808

Matrix: WATER

Lab Name: CH2M HILL/LAB/CVO

Lab Sample ID: G180801

Date Received: 05/15/07

CAS No.	Analyte	MDL	PQL	Result	Q	Units	DF	Sample Amount	Analysis Method	Date Analyzed
64-19-7	Acetic Acid	1.19	5.00	483		mg/L	50	25 UL	E300.0M	05/26/07
107-92-6	Butyric Acid	0.0438	1.00	13.6		mg/L	10	25 UL	E300.0M	05/23/07
50-21-5	Lactic Acid	0.0890	1.00	1.00	U	mg/L	10	25 UL	E300.0M	05/23/07
79-09-4	Propionic Acid	0.0800	1.00	72.9		mg/L	10	25 UL	E300.0M	05/23/07

LDC #: 17079C6 **VALIDATION COMPLETENESS WORKSHEET** Date: 7/13/07

SDG #: IQE1077/G1808 EPA ~~Region~~ 1 - Tier 3 Page: 1 of 1

Laboratory: Test America/CH2M Hill Applied Sciences Laboratory Reviewer: MM

2nd Reviewer: [illegible]

METHOD: Alkalinity (EPA Method 310.1), Ammonia-N (EPA Method 350.3), Chloride, Nitrate-~~N~~, Nitrite-~~N~~, Orthophosphate-~~P~~, Sulfate, (EPA Method 300.0), TOC (EPA Method 415.1), Metabolic Acids (EPA Method 300.0M)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/10/07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	SW	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW *	MS/MSD/DUP
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	A	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: A2

1	AW0066UB_WG051007_0001	11		21		31	
2	MB	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 17179C6
SDG #: See cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: MH
2nd Reviewer:

Method: Inorganics (EPA Method See cover)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			Some for Metabolic Acid
Were titrant checks performed as required? (Level IV only)	✓			
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✗	✓		
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were < 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 19079C6
SDG #: See cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: MG
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall Assessment of Data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field Duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field Blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 17079C6
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MY
2nd reviewer: Q

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS [✓ Cl] F [✓ NO_3] [✓ NO_2] [✓ SO_4] [✓ PO_4] [✓ ALK] CN^- [✓ NH_3] TKN [✓ TOC] CR^{6+} [✓ Metabolic Acid] ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}

Comments:

METHODS.6

LDC #: 19079C6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: MM
2nd Reviewer: [signature]

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
(Y) N N/A Were all samples associated with a given method blank?
(N) N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

Conc. units: ug/L **Associated Samples:** All (TSX)

Analyte	Blank ID	Maximum ICB/CCB	Blank Action Limit	Sample Identification								
	MB											
SO4	0.454		2.27									
Butyric Acid	0.0190		0.095									
Lactic Acid	0.0160		0.080									
Propionic Acid	0.0350		0.175									

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the methoc blank concentration were qualified as not detected, "U".

LDC #: 170796

SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer:

2nd Reviewer:

METHOD: Inorganics, EPA Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of ~~75-125~~? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. 80-120

(Y) N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

(Y) N N/A Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	JAE0989-01	AQ	NO2	206	210		none	MS qual

Comments:

LDC #: 178906
SDG #: See cover

Validatin Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: W
2nd Reviewer: R

Method: Inorganics, Method See cover

The correlation coefficient (r) for the calibration of Cl was recalculated.Calibration date: 5/11/07

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	conc. mg/L	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	Cl	s1	0	22637.8	0.999985	0.999985	Y
Calibration verification		s2	0.2	40439.52			
		s3	0.5	104109.07			
		s4	5	978293.29			
		s5	10	2034837.4			
		s6	20	4407366.6			
		s7	30	7046341.55			
CCV Calibration verification	NO_3	10	10.47		105	NR	Y
CCV Calibration verification	NH_3-N	4	3.843		96	NR	Y
CCV Calibration verification	Propionic Acid	3.62	4.27		%D 17.9	%D 17.9	Y

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 170796
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MM
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	SO4	9.81	10	98	98	Y
170112-01	Matrix spike sample	TOC	(SSR-SR) 4.821	5.0	96	96	Y
170113-05	Duplicate sample	ALK	30	30	0	0	Y

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 17079C6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MM
2nd reviewer: [signature]

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for | reported with a positive detect were recalculated and verified using the following equation:

Concentration =

Recalculation:

$$Alk = \frac{N_{titrant} \times V_{titrant} \times 50000}{\text{Sample Volume}}$$

$$Alk = \frac{10.4 \times 0.02 \times 50000}{25.0} = 496 \text{ mg/L}$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	Alk	500	500	Y
		Cl	820	820	↓
		TOC	530	530	↓
		Acetic Acid	483	482	|
		Butyric Acid	13.6	13.6	|
		Propionic Acid	72.9	72.9	↓

Note:

RECALC.6

Boeing Realty Corp. Bldg C-6 Facility
Data Validation Reports
LDC# 17079

Dissolved Gases

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 8, 2007

LDC Report Date: July 17, 2007

Matrix: Water

Parameters: Dissolved Gases

Validation Level: Tier 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc.

Sample Delivery Group (SDG): IQE0801/A7050904

Sample Identification

TMW_07_WG050807_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

III. Blanks

Method blanks were performed at the required frequency. No dissolved gas contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IQE0801/A7050904

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQE0801/A7050904

No Sample Data Qualified in this SDG

Client: TestAmerica
Attn: Nicholas Marz

Client's Project: IQE0801
Date Received: 5/9/2007
Matrix: Water
Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

Lab No.:		A7050904-01		A7050904-02		A7050904-03					
Client Sample I.D.:		IQE0801-01		IQE0801-02		IQE0801-03					
Date Sampled:		5/8/2007		5/8/2007		5/8/2007					
Date Analyzed:		5/14/2007		5/14/2007		5/14/2007					
Analyst Initials:		DT		DT		DT					
Data File:		14may010		14may011		14may012					
QC Batch:		070514GC8A1		070514GC8A1		070514GC8A1					
Dilution Factor:		1.0		1.0		1.0					
ANALYTE	PQL	RL	Results	RL	Results	RL	Results				
Methane	1.0	1.0	ND	1.0	2.7	1.0	12				
Ethane	2.0	2.0	ND	2.0	ND	2.0	ND				
Ethylene	3.0	3.0	ND	3.0	ND	3.0	ND				
Carbon Dioxide	200	200	31,000	200	93,000	200	21,000				
Nitrogen	1,500	1,500	96,000	1,500	96,000	1,500	97,000				

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 5/15/07
Mark D. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

5/19/07

LDC #: 17079A51 **VALIDATION COMPLETENESS WORKSHEET** Date: 7/16/07

SDG #: IQE0801/A7050904 Tier 1 Page: 1 of 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Dissolved Gases (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/8/07
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	not required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS/LD
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	TMW_07_WG050807_0001	11	MB - 5/15/07	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 9, 2007

LDC Report Date: July 17, 2007

Matrix: Water

Parameters: Dissolved Gases

Validation Level: Tier 2

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc.

Sample Delivery Group (SDG): IQE0963

Sample Identification

WCC_12_WG050907_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

III. Blanks

Method blanks were performed at the required frequency. No dissolved gas contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IQE0963

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQE0963

No Sample Data Qualified in this SDG

Client: TestAmerica
Attn: Nicholas Marz

Client's Project: IQE0963
Date Received: 5/10/2007
Matrix: Water
Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

Lab No.:		A7051006-01		A7051006-02		A7051006-03		A7051006-04		A7051006-05	
Client Sample I.D.:		IQE0963-01		IQE0963-02		IQE0963-03		IQE0963-04		IQE0963-05	
Date Sampled:		5/9/2007		5/9/2007		5/9/2007		5/9/2007		5/9/2007	
Date Analyzed:		5/15/2007		5/15/2007		5/15/2007		5/15/2007		5/15/2007	
Analyst Initials:		DT		DT		DT		DT		DT	
Data File:		14may013		14may014		14may015		14may016		14may017	
QC Batch:		070515GC8A1		070515GC8A1		070515GC8A1		070515GC8A1		070515GC8A1	
Dilution Factor:		1.0		1.0		1.0		1.0		1.0	
ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results
Methane	1.0	1.0	1.2	1.0	1.1	1.0	1.4	1.0	1.4	1.0	1.3
Ethane	2.0	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND
Ethylene	3.0	3.0	ND	3.0	ND	3.0	ND	3.0	ND	3.0	ND
Carbon Dioxide	200	200	54,000	200	150,000	200	220,000	200	17,000	200	130,000
Nitrogen	1,500	1,500	96,000	1,500	92,000	1,500	90,000	1,500	98,000	1,500	94,000

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 5/15/07
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

5/19/15

LDC #: 17079B51 **VALIDATION COMPLETENESS WORKSHEET** Date: 7/16/07

SDG #: IQE0963 Tier 2 Page: 1 of 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Dissolved Gases (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/9/07
IIa.	Initial calibration	A	$r^2 \geq 0.990$
IIb.	Calibration verification	A	%D ≤ 25
III.	Blanks	A	
IVa.	Surrogate recovery	N	not Required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS ID
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	WCC_12_WG050907_0001	11	MB - 5/15/07	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: May 10, 2007

LDC Report Date: July 17, 2007

Matrix: Water

Parameters: Dissolved Gases

Validation Level: Tier 3

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc.

Sample Delivery Group (SDG): IEQ1077/A7051102

Sample Identification

AW0066UB_WG051007_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No dissolved gas contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IEQ1077/A7051102

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IEQ1077/A7051102

No Sample Data Qualified in this SDG

Client: TestAmerica
Attn: Nicholas Marz

Client's Project: IQE1077
Date Received: 5/11/2007
Matrix: Water
Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

Lab No.:		A7051102-01		A7051102-02		A7051102-03		A7051102-04		A7051102-05	
Client Sample I.D.:		IQE1077-01		IQE1077-02		IQE1077-03		IQE1077-04		IQE1077-05	
Date Sampled:		5/10/2007		5/10/2007		5/10/2007		5/10/2007		5/10/2007	
Date Analyzed:		5/15/2007		5/15/2007		5/15/2007		5/15/2007		5/15/2007	
Analyst Initials:		DT		DT		DT		DT		DT	
Data File:		14may018		14may019		14may020		14may021		14may022	
QC Batch:		070515GC8A1		070515GC8A1		070515GC8A1		070515GC8A1		070515GC8A1	
Dilution Factor:		1.0		1.0		1.0		1.0		1.0	
ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results
Methane	1.0	1.0	3.3	1.0	1.2	1.0	850	1.0	1.4	1.0	1.3
Ethane	2.0	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND
Ethylene	3.0	3.0	ND	3.0	ND	3.0	ND	3.0	ND	3.0	ND
Carbon Dioxide	200	200	180,000	200	36,000	200	270,000	200	180,000	200	180,000
Nitrogen	1,500	1,500	94,000	1,500	98,000	1,500	86,000	1,500	93,000	1,500	90,000

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 5/15/07
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report

LDC #: 17079C51 **VALIDATION COMPLETENESS WORKSHEET** Date: 7/16/07

SDG #: IQE1077/A7051102 Tier 3 Page: 1 of 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Dissolved Gases (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 5/10/07
IIa.	Initial calibration	A	$r^2 \geq 0.990$
IIb.	Calibration verification	A	%D ≤ 25
III.	Blanks	A	
IVa.	Surrogate recovery	N	not required.
IVb.	Matrix spike/Matrix spike duplicates	~~N~~	~~LCSD~~ client specified
IVc.	Laboratory control samples	A	LCS/P
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	AW0066UB_WG051007_0001	11	MB-5/15/07	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 10707905
SDG #: all cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: _____ GC _____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?		✓		
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ____%D or ____%R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ~~≤ 15%~~ ≤ 25.0 or percent recoveries ~~85-115~~ 75-125%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			

LDC #: 170795
SDG #: all cover

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds idetected in the field duplicates?			✓	
XV. Field blanks				
Were field blanks identified in this SDG?		✓		
Were target compounds detected in the field blanks?			✓	

LDC #1707905J
SDG# per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: RSK-175

Parameter: Methane

Date	Column	Compound	X	Y	X^2
05/23/2006	middle-FID	methane	10.000	9308.300	
			100.000	89744.300	
			1000.000	863867.200	
			5000.000	4401745.000	
			1.00E+004	9597354.000	
			3.00E+000	5935.100	

	Regression Output:	**Reported**	
Constant	0.00000		0.00E+000
Std Err of Y Est	162740.52418		
R Squared	0.99823		0.99848
No. of Observations	6.00000		
Degrees of Freedom	5.00000		
X Coefficient(s)	9.432E+002		9.43E+002
Std Err of Coef.	14.497497		

LDC #: 17079C5 1
SDG #: pre cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: FT
2nd Reviewer:

METHOD: GC _____ HPLC _____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	ccv	5/15/07,	methane	1000	1068.2	1068.2	6.8	6.8
	8:14							
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17079c5 1

SDG #: yu cover

VALIDATION FINDINGS WORKSHEET

Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Reviewer: [illegible]

2nd Reviewer: [illegible]

_____METHOD: X GC __HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA

Where SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100

LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample duplicate

LCS/LCSD samples: LCS/D

Compound	Spike Added (ppm)		Sample Conc. (ppm)	Spike Sample Concentration (ppm)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	---	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)											
Diesel (8015)											
Benzene (8021B)											
Methane (RSK-175)	7000	7000	0	7361.1	69734	106	105	100	100	5.4	5.4
2,4-D (8151)											
Dinoseb (8151)											
Naphthalene (8310)											
Anthracene (8310)											
HMX (8330)											
2,4,6-Trinitrotoluene (8330)											

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

BOE-C6-0055113

LDC #: 11079c5 1
SDG #: all cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: M
2nd Reviewer: [illegible]

METHOD: ~~GC~~ __ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name Methanol

Concentration = _____

$y = mx$

$33\,497 = (9.4322 \times 10^{2})(X)$ $X = 35.5$

#	Sample ID	Compound	Reported Concentrations	Recalculated Results Concentrations	Qualifications
	mg/L gas in H2S =	$\frac{35.5\ (55.51)\ (16.04)\ (1000)}{1{,}000{,}000\ \ 41300}$		= 0.000765	
	gas in liquid =	$\frac{(35.5)\ (16.04)\ (4)\ (1000)}{(1000000)\ (22.4)\ (36)\ (298/273)}$		= 0.0025875	
		Total = 0.0033525			
		= 3.35 ug/L			

Comments: _____